AMENDMENTS TO THE CLAIMS

WHAT IS CLAIMED IS: (clean copy)

1. (Canceled)

2. (Canceled)

3. (Canceled)

4. (Canceled)

5. (Canceled)

6. (Canceled)

7. (Canceled)

8. (Canceled)

9. (Canceled)

10. (Canceled)

11. (Canceled)

12. (Currently amended) A method for monitoring performance of an optical network, comprising the steps of:

(a) intensity modulating each of optical wavelength channels of an optical signal, traveling through a section of a fiber between two nodes in the optical network, with the same fiber identification (FID) tone, which is a low frequency dither tone whose frequency is unique to the fiber section;

(b) measuring a power level of the FID tone at various locations in the optical network; and

(c) indicating the possibility of one or more of the following:

(i) the fiber section failure if the FID tone is not present;

(ii) an amplifier failure in the optical network if combined power levels of different FID tones at different dither tone frequencies decrease substantially uniformly;

(iii) a transponder failure if the power level of the FID tone decreases provided that no optical wavelength channels are being dropped from the respective network node; or

(iv) adding or dropping optical wavelength channels to the fiber section if the power level of the FID tone changes.

13. (Canceled)

14. (Canceled)

15. (Canceled)

16. (Canceled).

17. (Canceled)

18. (Canceled)

19. (Canceled)

20. (Canceled)

21. (Canceled)

22. (new) The method as described in claim 12, wherein the step (a) further comprises equalizing power levels of said optical wavelength channels.

23. (new) The method as described in claim 22, wherein the step (a) comprises intensity modulating optical signals traveling through different fiber sections in the optical network with FID tones having different dither tone frequencies and same modulation depth.

24. (new) The method as described in claim 23, further comprising the step of visualizing an approximate traffic load through different fiber sections in the optical network by comparatively displaying power levels of FID tones at different FID tone frequencies, thus

indicating that fiber sections having higher power levels of the FID tones carry larger numbers of optical wavelength channels.